**Matti Peltonen's Barn**

# Barn Again

### By Matti Peltonen

It's amazing how quickly seasons change when you're trying to beat them. To make the barn water- and snowproof became a priority, as August was unexpectedly followed by September, then by October. To be able to build the roof, I needed a platform, in this case also called the upstairs floor. Every step, however, always seems to have many necessary preceding steps. In this case, the floor needed floorjoists. The joists also give stability to the frame by binding the beams and posts together. So I was back to sawing, cutting joints, staining, then malleting the joists into place. Next, I nailed down the floor, with wood which in its former life was an interior wall. In the great tradition of a barn renovation, you use all serviceable old wood, but it rarely goes back exactly into the same place where it used to be. Once it's re-cut and double-jointed (so to speak) it's as good as new, and often better. Old wood, from trees grown slowly without fertilizers, is much harder than new wood.

The dormer – another step before the roof - ended up being a totally new design (the old one had been build largely of scrap wood – which will all probably end up in a Summer Solstice pyre – another excuse for a party) The dormer, with its small roof was to be good practice for the rafters and purlins: any mistakes would only result in a loss of short pieces of wood. As a result of the trials and errors, we now have a lot of very interesting designer firewood. After a refresher course in trigonometry - hypotenuse and all that – I got the dormer rafters and the purlins to fit

Before starting with the main rafters, the roof needed a number of beams to support it: long horizontal beams across the length of the barn, the queen beams to support the collar ties, which, in turn, prevent the rafters from sagging.

After the practice with the dormer, I was ready to tackle the main rafters. Using the drill press, hammer and chisel, every rafter got its bird's mouth (a joint where the lower end meets the horizontal beam – looks like a bird's mouth), a tongue and fork joint at the top, and the half dovetails along the sides for the purlins

Making the rafters join at a 58.5-degree angle at the top, with the thought that the 17-foot span across would magnify any mistakes, was a challenge to my non-existent roof-building skills. Naturally, I had to make it the hard way, too. That meant four pairs of rafters made from large beams, joined horizontally by purlins (like a joist but binds roof rafters together), all covered with 12-inch rough cut pine planks.

Once finished and stained, I hauled the rafters upstairs (one day, a staircase will make going upstairs much easier), joined the rafter pairs with wooden pegs, and hoisted them up onto the horizontal beams, and pulled them into position, with ropes, and with other ropes preventing them from flipping over. My wife, observing the ergonomics of that exercise, diplomatically issued the opinion that while I was probably insane, at least I was pleasantly insane.

Once the rafters were in place, the work moved up to a higher level. The purlins were easy except for some more advanced aerial acrobatics at 20 foot altitude (too low for a parachute, too high for levitation) on the rafters. I tried to brainwash myself into thinking that no matter what I'd accidentally drop, it would not be worth trying to catch. Unfortunately the reptile part of the brain reacts much faster than the brain's reasoning process, so there were some spectacular catch-the-hammer-when-you-really-really-should-not. Somehow I managed to defy gravity and stay on the rafters.

Rafters and purlins finally in place, I drafted my brother-in-law Mitch for the next stage (he can be bribed with quite moderate amounts of single malt Scotch – served after everyone had descended from the roof). While I stayed balanced (physically, at least) on the roof, he handed me the pre-cut planks and I nailed them down. He saved me about a hundred trips up and down the triple-ladder. Help really helps.

Now the roof had its final shape, and I could start on the slate – almost. As there was no guarantee I'd finish the slate during the dry season, I covered the planks (in consultation with the Slate Roof Bible) with heavy tar paper, to make it temporarily water-proof. I no longer expected any simple-sounding task to be simple, and tar-papering was no different. Most of the time, trying to cross the roof with a heavy roll of tar paper mostly resulted in the paper, me, and the tools all sliding down in different directions. After the paper was finally all nailed down – with about 500 roofing nails, all those nailheads had to be covered with roof cement, which at the end of the project, in addition to covering the nail heads, covered most of me also.

Next, slate? Not yet – first, the copper. A roof is all about water, or how to avoid it getting in where it's not supposed to go. In addition to slate, that meant flashings, drip edges, valleys (where the slate come together between the dormer and the main roof), and a ridge cap, all copper, and about 15 pounds of copper nails for the slate. Copper is the

only thing expected to last as long as the slate (about 150 years). The sharp drop in world copper prices over the summer made the price of all these items not to drop one bit. My wife saw the credit card bill, and was ready to have Joseph Jenkins committed for credit card fraud, but, but I convinced her Joseph merely runs a slate roof supply business. Amortizing over 150 years makes the cost appear very modest.

Finally, I could not think of another task before the slate. Well, except building most of the walls, because someone pointed out I might not want to carry tons of stone onto the roof before I'd have all the structural strength there was to be had.

The first five rows of slate at the bottom, installed from the scaffolding and ladder jacks, were easy. Each slate is nailed down with two copper nails. Slate comes pre-punched, but new holes are easy to make when needed, by punching it from the under-side with the spike of the slate hammer – which creates a funnel-shaped hole at the top of the slate, needed to hide the nail head, so the next row does not stick out. Slate is also easy to cut, with the slate cutter, which cuts any angle, and creates a beveled at the top of the slate. Slate is also very easy to break… I expected about 20% waste, resulting from all the un- and intentional cutting. In the end, after installing about 1,000 slates, I only had about 20 pieces left.

Next, I had to move to the roof, to work on four ladders, secured at the top with ladder hooks. You cannot walk on slate without breaking it, but the ladders spread the weight (mine) enough so you can move across the roof. Ladders need to be moved frequently in order to be able to install the slate all across. It's another exercise in semi-aerial acrobatics, but at least I was secured by the harness. As I could only drag about 5 pieces up at a time, and climb down any time a slate needed to be cut, I must have climbed up and down about 500 times – a good workout, with no gym fee. When working on the south side, the harness was tied to a tree. When working on the north side, the rope was tied to the car, the car being the heaviest piece of machinery within rope reach. I did hope that my wife would notice my note on the driver's seat, asking her to check my whereabouts before driving away. She did – I was not dragged to Foodtown behind the car, not even once.

I only had to resort to the slate ripper once. A slate ripper is a two foot steel spatula with hooks, used to rip out a broken slate by sliding it under, and yanking the nails out with the hooks. Surprisingly, there not much of a market on E-bay for slightly used slate rippers. Well, I'll need it around 2158 when the slate expires, hopefully not too often before then.

In the summer, the natural time to stop work seems to be around sunset. As the October, then November days were growing shorter, and the slate was taking longer, sunlight gave way to a headlamp as the construction hours extended way beyond gloaming. There seemed to be nothing strange (my opinion, I did not consult neighbors') about working in total darkness, climbing up/down the triple-ladder, hammering slate. In fact, taking a break (I admit, I took a break a couple of times), while resting on a roof ladder, it was very peaceful to admire the constellations and the moon. Also, the roof was good for

observing nature – as deer have no aerial predators, they pay no attention to me on the roof being observed munching the flowers. Then again, they pay no attention to me when I'm on the ground either… the only creature they are afraid of is Tortilla the cat, who enjoys driving them up the mountain.

Eventually, very eventually, the roof was finished; a milestone to be celebrated in the old Finnish tradition, by nailing a broom upside down into a wall, and thereby dedicating the barn to one of the old Finn gods. In this case, to the goddess of the waning moon, who is a thief, so bothered by the bright moonlight that every month, she climbs a ladder with a bucket of tar, and makes the moon disappear. In other words, barn renovation really is a good excuse to throw parties, preferably several.

One of the FAQs has been what I'd use the barn for. The current intent is to build a sauna downstairs, and a workshop, to house all those exotic tools. Upstairs will be the Hammock & Bourbon room…

Another FAQ: when would I stop work for winter? The way I look at it, winter really is one of the best seasons for outdoor work, the only better ones being spring, summer, and autumn. There are many advantages to outdoor work in winter. For example, hitting a (frozen) finger with a hammer is far preferable to slamming the finger in the summer. In the summer it hurts right away, whereas in winter, you have time to climb down the ladder, go indoors, sit down in the kitchen, have a cup of coffee, prepare and apply an unguent, select an appropriate swearword, and only then it starts to hurt. Also, snow is much drier than rain, and less slippery. And in the cold, you have to work hard to keep warm – good for the work ethic, whereas in July, you're hot before you even start. The only disadvantage – compared with summer - is trying to find fallen tools in 18 inches of snow, but I just know they'll be there in the spring.